

FCC ID:2ASW3-X10

Portable device

According to §15.247(e)(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to KDB447498 D01 General RF Exposure Guidance V06

The 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

BLE:

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculation	SAR Exclusion threshold	SAR test exclusion
GFSK	2.402	1.656	1.46	1±1	2.00	1.58	<5	0.49127	3.00	YES
	2.44	1.885	1.54	1±1	2.00	1.58	<5	0.49514	3.00	YES
	2.480	1.695	1.48	1±1	2.00	1.58	<5	0.49918	3.00	YES

2.4GWIFI:

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculation	SAR Exclusion threshold	SAR test exclusion
802.11b	2.412	8.003	6.31	8±1	9.00	7.94	<5	2.46728	3.00	YES
	2.437	7.588	5.74	7±1	8.00	6.31	<5	1.96996	3.00	YES
	2.462	7.061	5.08	7±1	8.00	6.31	<5	1.98004	3.00	YES
802.11g	2.412	7.405	5.50	7±1	8.00	6.31	<5	1.95983	3.00	YES
	2.437	7.689	5.87	7±1	8.00	6.31	<5	1.96996	3.00	YES
	2.462	7.556	5.70	7±1	8.00	6.31	<5	1.98004	3.00	YES
802.11n(HT20)	2.412	7.243	5.30	7±1	8.00	6.31	<5	1.95983	3.00	YES
	2.437	7.588	5.74	7±1	8.00	6.31	<5	1.96996	3.00	YES
	2.462	7.009	5.02	7±1	8.00	6.31	<5	1.98004	3.00	YES
802.11n(HT40)	2.422	7.571	5.72	7±1	8.00	6.31	<5	1.96389	3.00	YES
	2.437	7.635	5.80	7±1	8.00	6.31	<5	1.96996	3.00	YES
	2.452	7.054	5.07	7±1	8.00	6.31	<5	1.97601	3.00	YES

5GWIFI:

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculation	SAR Exclusion threshold	SAR test exclusion
802.11a20	5.745	6.675	4.65	6±1	7.00	5.01	<5	2.40256	3.00	YES
	5.785	5.79	3.79	5±1	6.00	3.98	<5	1.91506	3.00	YES
	5.825	6.447	4.41	6±1	7.00	5.01	<5	2.41923	3.00	YES
802.11ac20	5.745	6.542	4.51	6±1	7.00	5.01	<5	2.40256	3.00	YES
	5.785	5.697	3.71	5±1	6.00	3.98	<5	1.91506	3.00	YES
	5.825	6.517	4.48	6±1	7.00	5.01	<5	2.41923	3.00	YES
802.11ac40	5.755	6.983	4.99	6±1	7.00	5.01	<5	2.40465	3.00	YES
	5.795	6.431	4.40	6±1	7.00	5.01	<5	2.41300	3.00	YES
802.11ac80	5.775	4.956	3.13	4±1	5.00	3.16	<5	1.51987	3.00	YES
802.11n(HT20)	5.745	6.54	4.51	6±1	7.00	5.01	<5	2.40256	3.00	YES
	5.785	5.747	3.76	5±1	6.00	3.98	<5	1.91506	3.00	YES
	5.825	6.45	4.42	6±1	7.00	5.01	<5	2.41923	3.00	YES
802.11n(HT40)	5.755	6.493	4.46	6±1	7.00	5.01	<5	2.40465	3.00	YES
	5.795	5.486	3.54	5±1	6.00	3.98	<5	1.91671	3.00	YES

Conclusion:

For the max result : $2.46728 \leq \text{FCC Limit } 3.0$ for 1g SAR.

Note: BT and WiFi do not support simultaneous transmission